

(19) World Intellectual Property Organization  
International Bureau



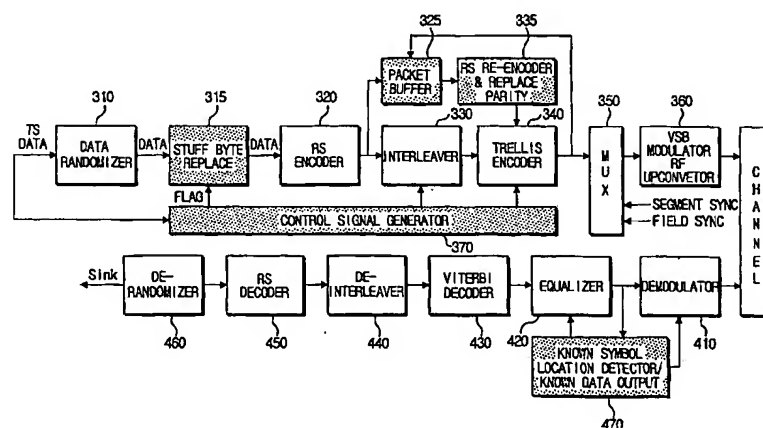
(43) International Publication Date  
5 January 2006 (05.01.2006)

PCT

(10) International Publication Number  
**WO 2006/001635 A1**

- (51) International Patent Classification<sup>7</sup>: **H04N 7/015**
- (21) International Application Number:  
**PCT/KR2005/001940**
- (22) International Filing Date: **23 June 2005 (23.06.2005)**
- (25) Filing Language: **Korean**
- (26) Publication Language: **English**
- (30) Priority Data:  
**10-2004-0047153 23 June 2004 (23.06.2004) KR**
- (71) Applicant (for all designated States except US): **SAM-SUNG ELECTRONICS CO., LTD. [KR/KR]; 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742 (KR).**
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **PARK, Sung-soo [KR/KR]; 104, 1250-3, Maetan 3-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-848 (KR). CHANG, Yong-deok [KR/KR]; 105-705, Dongsuwon LG Village, Mangpo-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-706 (KR). PARK, Eui-jun [KR/KR]; 101, 196-199, Bongcheon 11-dong, Gwanak-gu, Seoul 151-817 (KR).**
- (74) Agent: **JEONG, Hong-sik; 8th Floor, Daelim Bldg., 1600-3, Seocho-dong, Seocho-gu, Seoul 137-877 (KR).**
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): **ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**
- Published:**
- with international search report
  - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **DIGITAL BROADCASTING TRANSMISSION/RECEPTION APABLE OF IMPROVING RECEIVING AND EQUALIZING PERFORMANCE AND SIGNAL PROCESSING METHOD THEREOF**



(57) Abstract: A digital broadcast transmitting and receiving system and a signal processing method thereof that improves the receiving performance of the system. A digital broadcast transmitter can include a randomizer to receive and randomize a data stream into a specified position of which stuff bytes are inserted, a replacement sequence generator to generate known data consisting of a predefined sequence, a stuff-byte exchange unit to insert the known data into the specified position of the data stream into which the stuff bytes are inserted, an encoder to encode the data stream output from the stuff-byte exchange unit for an error correction, and a transmission unit to modulate the encoded data stream, RF-convert the modulated data stream and transmit the RF-converted data. The digital broadcast receiving performance can be improved even in an inferior multi-path channel by detecting the known data from the received transmission and using the known data for synchronization and equalization in a digital broadcast receiver.